

AUTHENTIC PERSON IDENTIFICATION

Background of the Invention:

This invention relates to a method a recording medium, a program processing device, a mobile radio communication system, a communication device, and a communication system all of which send/receive person identification information so as to identify each person.

Recently, a portable or cell phone has remarkably become popular in the world and a wide variety of services have also been proposed which can be utilized by the cell phone. On the other hand, users of the internet have rapidly increase. Under the circumstances, proposals have also been made about a service of accessing the internet from a cell phone. Thus, as communication becomes heavily important, a technique becomes seriously significant which can identify each person who is being carrying out communication and who is certainly authentic.

Conventionally, use has been made of a code number, such as a key word, a password, and a complicate processing has been usually utilized to carry out encryption, and the like.

Now, there are a number of television programs which may be called audience participation programs and with which audiences can participate. As such audience participation programs, there are also a lot of audience participation programs that the audiences play games, dances, techniques and compete with one another in the programs. In such audience participation programs, an audition has been often held among contestants gathered from a great number of the audiences before the

When such an audition has been held, it often happens that a great number of contestants, or candidates of, for example, 500,000 participate with the audition. In this event, the contestants are at first screened by examining contestants' papers or documents. Such screening the contestants by examining the papers tends to consume a lot of times, labor, and expense. In addition, even when the contestants are selected as candidates by examining the papers, all of the candidates must be further tested by actually giving performances before judges. In other words, the judges must watch all performances of the candidates and select a predetermined number of persons from the candidates. However, such watching and selecting need a long time and a lot of labor.

In the interim, similar tests or trial examinations have been carried out in schools, coaching schools, or the like. Results of such tests or trial examinations have been individually informed by examination papers given to candidates and published in the form of a scholastic list of predetermined students.

At any rate, it is to be noted that no consideration has been made at all about using a cell phone or an internet so as to individually or privately inform candidates of results of an audition, tests, or trial examinations. Even if attention is directed to using the internet so as to privately inform the candidates of the results, no proposal has been yet made about an effective and simple communication method of identifying that each person is authentic.

It is an object of this invention to provide a communication method
can effectively and simply communicate personal identification

information.

It is another object of this invention to provide a communication method of the type described, which is suitable for selecting candidates of a predetermined level and which can privately and individually inform each candidate of results of either pass or failure.

It is still another object of this invention to provide a communication method of the type described, which is capable of simply identifying that each candidate is authentic.

It is yet another object of this invention to provide a computer-readable recording medium and a program which are suitable for transmitting personal identification information.

It is another object of this invention to provide a communication system which can simply identify a person is authentic.

It is a further object of this invention to provide a communication device which can notify an authentic person alone after certainly identifying that a person is authentic from personal identification information.

According to this invention, there is provided a method of carrying out communication between a center side and a personal terminal owned by a person and assigned with personal identification information, comprising the steps of obtaining, as personal record data, a result of a workout exercised by the person; producing a total personal password with reference to the personal identification information and the personal record data; and transmitting the total personal password together with the personal identification information to the center side.

According to this invention, there is also provided a computer-readable recording medium which stores a program, the program comprising the steps of requesting a person using the recording medium to

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input personal identification information; generating an execution result obtained by executing the program; and producing a total personal password of the person from the personal identification information and the execution result.

According to this invention, there is also provided a program processing device for processing a program stored in a computer-readable recording medium by attaching the recording medium to the program processing device, wherein the program comprises the steps of inputting personal identification information concerned with a person who uses the recording medium; generating an execution result obtained by executing the program; and generating a total personal password concerned with the person on the basis of the personal identification information and the execution result.

According to this invention, there is also provided a mobile communication system comprising a program processing device for processing a program stored in a recording medium attached thereto and a mobile terminal communicable with the program processing device, wherein the program processing device comprises means for inputting personal identification information representative of a person using the recording medium; means for executing the program to produce a result of executing the program; means for generating a total personal password related to the person on the basis of the personal identification information and the result of executing the program; the mobile terminal comprising means for transmitting the personal identification information and the total personal password.

According to this invention, there is also provided a communication device operable in response to personal identification information for identifying each person and a total personal password composed of the

personal identification information and personal record data concerned with the person, comprising collating means for collating the personal identification information with interpreted personal identification information obtained by processing the total personal password received; detecting means for detecting whether or not the interpreted personal identification information is coincident with the personal identification information received, to produce coincident and noncoincident signals; and judging means for judging that the person is authentic and not authentic in response to the coincident and the noncoincident signals, respectively.

According to this invention, there is also provided a communication system for use in carrying out communication between a subscriber terminal and a server both of which are connected to each other through a network, with the subscriber terminal assigned with a password corresponding to the server, wherein the server comprises delivering means for delivering an exercise and/or a game to the subscriber terminal while the subscriber terminal comprises reply transmission means for transmitting an answer/ an execution result of the subscriber to the exercise and/or the game to the server.

Brief Description of the Drawing:

Fig. 1 shows a schematic view for describing an encryption method used in a personal information communication method according to an embodiment of this invention;

Fig. 2 shows a flow chart for use in describing the personal information communication method according to the embodiment of this invention; and

Fig. 3 shows a block diagram for use in describing a communication system according to another embodiment of this invention.

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Description of the Preferred Embodiments:

Referring to Fig. 1, description will be made about a communication system according to an embodiment of this invention. In the illustrated example, the communication system is mainly used for transmitting personal information and may be therefore called a personal information communication system. Herein, it is assumed that this invention is applied to an audition system that selects a particular person from contestants or applicants.

In order to enter the audition, it is surmised that candidates should exercise or play a predetermined game stored in a computer-readable recording medium, such as a CD-ROM, a semiconductor memory, to obtain a result of a workout and that a preliminary examination is made about the results of the workouts to screen the candidates into contestants. Moreover, the particular person is finally determined from the contestants who pass the preliminary examination.

Thus, the contestants are selected from the candidates by the preliminary examination. In such a preliminary examination, judgement is made about whether or not each candidate fulfills or clears a prescribed condition determined in connection with the predetermined game. The prescribed condition may be, for example, a predetermined score, level, and/or rank.

Specifically, the candidates transmit their results, such as scores, to a promoter of the audition, without being aware of their results in a manner to be described later in detail. From the promoter side, certificates are delivered in the preliminary examination only to successful candidates who fulfill the prescribed condition. As a result, the candidates are selected as the contestants who attend the audition.

Now, description will be directed to the computer-readable recording medium (depicted by 10), which may be, for example, a CD-ROM, and which is usable in this invention. The illustrated recording medium 10 stores first through sixth game programs that are explained as Games 1 through 6, respectively, and that may include music games, such as key board games, drum games, vocal games, and so on. Results of performances are stored in a known manner in a memory card 11 which is usually structured by a flash memory. This shows that the illustrated game machine has both the recording medium 10 and the memory card 11. Such a game machine is well known in the art and will not be described in detail.

Herein, the illustrated recording medium 10 be attached to the game machine. In this state, when a power switch is turned on, the game programs (Games 1 to 6) are selectively delivered to a main memory of the game machine in accordance with an OS. Under the circumstances, an image of a lesson menu is displayed on a display device (not shown).

From the lesson menu image, it is assumed that the player selects one of the games that is designated by the audition and exercises or plays the selected game.

On the other hand, the personal identification information stored in the memory card 11 is encrypted into an encrypted code in accordance with a known encrypting algorithm predetermined for the recording medium 10, as depicted by a step S1. In the illustrated example, results of practice or workout are obtained by practicing or executing the games stored in the recording medium 10 and are also encrypted in accordance with the above-mentioned algorithm together with parameters used in the games. Such parameters may represent levels or ranks of the player. Such results of execution or practice are generated in the form of a password, as shown at a step S2 in Fig. 1.

Subsequently, the encrypted personal identification information (generated at the step S1) is combined with the password generated at the step S2 and is further encrypted into a total personal password in accordance with the above algorithm. As a result, the total personal password carries the personal ID information and the results of practice encrypted, as shown at a step S3.

Such a total personal password encrypted may be displayed on the display device of the game machine in the form of an unrecognizable image by the player. Under the circumstances, it is very difficult for the players themselves to recognize inclusion of both the personal ID information and the results of practice in the encrypted total personal password. For brevity of description, the encrypted total personal password will be simply called a total personal password below.

Referring to Fig. 2, the total personal password obtained by playing or executing the game in the recording medium 10 (Fig. 1) is transferred to

Supplied with the total personal password encrypted, the center side interprets the total personal password into the player's name, address, the

On the other hand, when the notified personal phone number (or the notified personal identification information) is coincident with the interpreted identification information, the center side judges that the player is authentic and accesses to apply for the audition. Thus, it is possible to detect or check an imposter by the above-mentioned collation. On detecting the coincidence by the collation, the center side extracts parameters which are included in the interpreted personal identification information and which specify the results of executing the game by the caller. Thereafter, the center side grades the player in question to decide whether or not the player passes the audition. In the example illustrated, the center sides transmits, to the player or applicant, an advice message indicative of a reason of failure and the like, in addition to the decision to pass or fail the player.

Although the above description has been made about the case where this invention is applied to the audition, this invention is applicable to the case where a notice about a test result is delivered only to each examinee in schools or coaching schools. Specifically, the above-mentioned parameters are formed by answers of examinations and may be produced in the form of the total personal password.

The illustrated flash memory 211 of the subscriber terminal 21 is loaded with questions and/or games which are previously transmitted from

The server 20 judges the results of the exercise or practice. In the illustrated example, the subscriber can be easily identified by the server 20 because the user name and password are assigned to each subscriber and are registered in the server 20. In this case, fair judgement can be accomplished by encrypting the results of the exercise or practice by the use of a predetermined algorithm. This is because the results of the exercise or practice can not be modified or altered by the subscriber itself.

In the illustrated example, when the results are transmitted from the subscriber terminal 21 and received by the server 20, the server 20 judges the results of exercise or practice to transmit the outcome of judgement to the subscriber terminal 21 directly or to the cell phone 22 of the subscriber.

With this communication system, each subscriber can select a preferable program from programs, such as game programs depicted by GP1 to GP4 in Fig. 3, and can make sure of the results of exercise or practice obtained by exercising a selected one of the game programs. On the other hand, the server 20 can transmit, to subscribers, various games and/or questions prior to audition on demand and can gather applicants. Moreover, the outcome of examination in the server 20 may be released in public through mass media, such as TV, etc. Such a public release is very

Thus, this invention is advantageous in that each individual can be accurately identified by utilizing a function of a cell phone and necessary information can be delivered only to a person identified. The result or outcome of judgement or examination can be privately sent to each applicant alone by using a portable digital assistant (PDA) device, such as a cell phone. Consequently, each applicant can know about a rank or level at any place where. The communication system illustrated in Fig. 3 can vary the games or questions by the server from time to time, if necessary.